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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/055,474

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James L. Tracy

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05/18/2004

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EXAMINER

PIZIALI, JEFFREY J

ART UNIT

PAPER NUMBER

2673

6

DATE MAILED: 05/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/055,474

Applicant(s)

TRACY ET AL.

Examiner

Jeff Piziali

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference signs not mentioned in the description: 111 (see Fig. 1) and 303 (see Fig. 3). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference signs in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 8-12, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Di Santo et al. (US 4,870,677).

Regarding claim 1, Di Santo discloses a button mechanism, comprising: a switch means [Fig. 1; 12] for operating a button circuit in response to actuation of the button mechanism; display means [Fig. 1; 11] disposed in correspondence with the switch means (see Column 2, Line 51 - Column 4, Line 41) and comprising: a driver layer having a conductor pattern configured in the pattern of a symbol (see Figs. 2 & 3) to be displayed on the button mechanism;

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a transparent conductor layer; and an electrically active ink layer disposed between the transparent conductor layer and the driver layer (see Column 1, Line 38-67).

Regarding claim 2, Di Santo discloses the conductor pattern comprises: a first set of conductor elements corresponding to a first symbol [Fig. 2; "ABC 2"]; and a second set of conductor elements corresponding to a second symbol [Fig. 2; "DEF 3"]; wherein the first and second symbols are coincidentally located (see Column 3, Line 59 - Column 4, Line 41).

Regarding claim 3, Di Santo discloses a third set of conductor elements which form segments [horizontal X line patterns, for instance] common to both the first and second symbols (see Fig. 5; Column 4, Line 42 - Column 5, Line 41).

Regarding claim 4, Di Santo discloses the first and second symbols are not commonly oriented (see Figs. 2 & 3).

Regarding claim 8, this claim is rejected by the same reasoning applied in the above rejection of claim 1; moreover, Di Santo discloses an adaptable keypad (see Figs. 2 & 3), comprising: a plurality of keys (see Column 3, Line 59 - Column 4, Line 41).

Regarding claim 9, this claim is rejected by the same reasoning applied in the above rejection of claim 2.

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Regarding claim 10, this claim is rejected by the same reasoning applied in the above rejection of claim 3.

Regarding claim 11, this claim is rejected by the same reasoning applied in the above rejection of claim 4.

Regarding claim 12, Di Santo discloses the first set of conductor elements for each of the plurality of keys forms a first symbol set [Fig. 2], the second set of conductor elements for each of the plurality of keys forms a second symbol set [Figs. 3 & 5], the first and second symbol sets are exclusively energized depending on a mode [Figs. 2 & 3; 100] of operating the keypad (see Column 2, Line 51 - Column 4, Line 41).

Regarding claim 16, this claim is rejected by the same reasoning applied in the above rejection of claims 1, 2, and 8; moreover, Di Santo discloses a portable electronic device [Fig. 1; 10] having an adaptable keypad [Fig. 1; 11 & 12] (see Column 2, Line 51 - Column 4, Line 41).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 5-7 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Di Santo et al. (US 4,870,677) in view of Dreher (US 4,551,717).

Regarding claim 5, Di Santo does not explicitly disclose the switch means comprises a popple switch. However, Dreher does disclose a switch means [Fig. 2; 20] comprising a popple switch [Fig. 2; 11 & 12] (see Column 2, Lines 26-65). Di Santo and Dreher are analogous art because they are from the shared inventive field of buttons having variable displays. Therefore, it would have been obvious to one skilled in the art at the time of invention to use Di Santo's electrophoretic display as Dreher's display [Fig. 1; 40], so as to provide the programmable key with a thin display device capable of high resolution at low power.

Regarding claim 6, Dreher discloses a transparent actuating member [Fig. 2; 12] disposed in correspondence with the popple switch, such that the display means [Fig. 2; 15] is between the popple switch [Fig. 2; 20] and the transparent actuating member (see Column 2, Lines 26-65).

Regarding claim 7, Dreher discloses the transparent actuating member has a convex outer surface (see Fig. 2; 12).

Regarding claim 13, this claim is rejected by the same reasoning applied in the above rejection of claim 5.

Regarding claim 14, this claim is rejected by the same reasoning applied in the above rejection of claim 6.

Regarding claim 15, this claim is rejected by the same reasoning applied in the above rejection of claim 7.

***Response to Arguments***

6. Applicants' arguments filed 5 March 2004 have been fully considered but they are not persuasive. Firstly, the applicants contend the instant invention's driver layer uses only two conductor layers (a driver layer and transparent conductor layer); while on the other hand, the prior art of Di Santo et al. (US 4,870,677) requires three conducting layers (a X layer, Y layer, and conducting plate). The applicants maintain Di Santo requires the X and Y layers to be selectively electrified in various combinations to create symbols and characters from what would effectively be a matrix of pixels formed by the X-Y grid; while the benefit of the instant arrangement is that an entire set of characters can be energized, and thus displayed with one or two lines. However, even if arguably Di Santo differs from the instant invention as the applicants contend; the examiner respectfully disagrees that Di Santo neglects to fully read upon present claim language. Taking, for instance, independent claim 1, Di Santo clearly evidences a driver layer [X layer] having a conductor pattern configured in the pattern of a symbol (see Figs. 2 & 3) to be displayed on the button mechanism; a transparent conductor layer [Y layer]; and an electrically active ink layer [electrophoretic particles] disposed between the transparent conductor layer and the driver layer (see Column 1, Line 38-67).

Secondly, the applicants contend Di Santo fails to teach two sets of conductor elements that are coincidentally located. Again, the examiner respectfully disagrees. Di Santo discloses a

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first set of conductor elements corresponding to a first symbol [Fig. 2; "ABC 2"]; and a second set of conductor elements corresponding to a second symbol [Fig. 2; "DEF 3"]; wherein the first and second symbols are coincidentally located (see Column 3, Line 59 - Column 4, Line 41).

The applicants are arguing that Di Santo's conductor elements corresponding to the symbols are not in the same shape of the symbols. However, such a shape limitation is nonexistent in pending claim language.

Next, the applicants contend because Di Santo's X and Y grids are required to form images, the X grid cannot be considered as a third set of conductor elements common to the first and second symbols to be displayed at that location. However, the examiner respectfully disagrees. There is nothing explicitly stated in present claim language precluding Di Santo's horizontal X line pattern from being considered a third set of conductor elements which form segments common to both the first and second symbols (see Fig. 5; Column 4, Line 42 - Column 5, Line 41). Instant claim language remains broad enough to read fully upon Di Santo's teachings.

Fourthly, the applicants contend Di Santo's symbols are commonly oriented. The examiner respectfully disagrees. Di Santo's first symbol [Fig. 2; "ABC 2"] is clearly located in an entirely different, separate, and unique column than the second symbol [Fig. 2; "DEF 3"].

Lastly, the applicants contend Di Santo's X-Y lines cannot be analogized to the symbol-shaped conductor elements of the instant invention. However, the examiner respectfully disagrees. The examiner is not making analogies with this office action. Di Santo discloses each and every claim limitation as instantly presented. The applicants continue to argue on the issue of "symbol-shaped conductor elements." However, as already stated above, this shape limitation



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is nonexistent in all pending claim language. In fact, the term "shape" does not appear anywhere in any one of the sixteen pending claims.

By such reasoning, rejection of the claims is deemed necessary, proper, and thereby maintained at this time.

### *Conclusion*

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (703) 305-8382. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (703) 305-4938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



J.P.

17 May 2004



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